

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,255	09/06/2000	Michael J. O'Brien	9234	9291

21905 7590 08/23/2004

CONNORS ASSOCIATES
1600 DOVE ST
SUITE 220
NEWPORT BEACH, CA 92660

EXAMINER

BAHTA, KIDEST

ART UNIT PAPER NUMBER

2125

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/656,255	Applicant(s) O'BRIEN ET AL.	
	Examiner Kidest Bahta	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/11/2003, 11/11/2003, 5/4/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05/27/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 7, 10, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Rubber et al. (U.S. Patent 6,648,640).

Regarding claims 1, 4, 7, 10, 13 and 14, Rubber discloses (a) forming a model of a patient's dentition including surfaces corresponding to the dental structure nearby the location that the dental prosthesis is to be placed in the mouth of a patient (,

(b) scanning the surfaces of the model to collect three dimensional digital data corresponding to the the surfaces (column 5, lines 31-48; column 55, lines 36-40; Fig. 3 and Fig. 4),

(c) displaying on a monitor screen of computer aided design equipment an image of a proposed dental prosthesis based, at least in part, on the collected three dimensional digital data corresponding to the surfaces (column 6, lines 4-21; column 55, lines 15-28; Fig. Fig. 1),

(d) with the aid of the computer aided design equipment, modifying the image so that the image displayed on the monitor screen substantially corresponds to the dental

Art Unit: 2125

prosthesis to be manufactured (column 55, lines 1-14 and 40-43; column 67, lines 10-25; Fig. 76, Fig. 85 and Fig. 86),

(e) collecting the three dimensional digital data substantially corresponding to the image of the dental prosthesis to be manufactured and transmitting the three dimensional digital data of the image of the dental prosthesis to be manufactured to automated prototyping equipment (column 55, lines 15-28, column 71 and column 72) ,

(f) using the automated prototyping equipment making from a wax material the pattern of the dental prosthesis to be manufactured based upon the three dimensional digital data substantially corresponding to the image of the dental prosthesis to be manufactured (column 55, lines 15-54; column 56, lines 29-36).

Regarding claims 2, 5, 8 and 11, Rubber discloses the pattern has marginal edges that are at least 0.75 of a millimeter from margins of an individual tooth structure to which the dental prosthesis is to be attached (column 53, lines 23-42; column 56, lines 25-28; column 71, lines 56-57; Fig. 65 and Fig. 87, i.e., the Missing data or gaps from the tooth scan can also be filled from the template tooth using a simple interpolation procedure, such as shown in FIG. 65. To fill in the surface, the distance in mm is determined between the point at the left hand edge of the gap 1024 and the template surface 310 in the Z direction (0.6 mm), right hand edge 1028 (0.9 mm). A mid point is chosen 1026 and the values are averaged to arrive at the distance for point 1026 (0.75 mm) and measurements can be compared with measurements made of the template. Now, tooth wear can be quantified precisely).

Regarding claims 3, 6, 9 and 12, Rubber discloses the marginal edges of the pattern are manually adjusted to compensate for the specific configuration of the individual tooth structure by adding wax material to the edges (column 2, lines 35-44; column 56, lines 25-28, column 71, lines 8-20; i.e., Any deviations between the therapeutic result that is observed and the expected result can be captured precisely and at an early stage in treatment using the scanning and treatment planning features described herein, and corrected for ...***monitoring and treatment corrections are applicable to any type of appliance selected for the patient***).

Response to Arguments

3. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any inquiry concerning communication or earlier communication from the examiner should be directed to Kidest Bahta, whose telephone number is (703) 308-6103. The examiner can normally be reached on M-F from 7:00 a.m. to 4:30 p.m. EST (every other Friday). If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached (703) 308-0538. Additionally, the fax numbers for Art Unit 2125 are (703) 746-7238 for after final, (703) 746-7239 for Official and Non-

Application/Control Number: 09/656,255

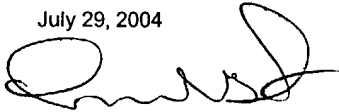
Page 5

Art Unit: 2125

Official /Draft (703) 746-7240. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Kidest Bahta

July 29, 2004

A handwritten signature in black ink, appearing to read 'Kidest Bahta', written over the date.